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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.       | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------|------------------|
| 10/784,626  | 02/23/2004  | Jeffrey G. Cherny    | 00AB070A /<br>ALBRP175USA | 8398             |
| 7590  | 01/24/2006  |                      | EXAMINER                  |                  |
| Susan M. Donahue<br>Rockwell Automation<br>704-P, IP Department<br>1201 South 2nd Street<br>Milwaukee, WI 53204 |             |                      | MCCARTHY, CHRISTOPHER S   |                  |
|   |             |                      | ART UNIT                  | PAPER NUMBER     |
|   |             |                      | 2113                      |                  |

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                         |               |  |
|------------------------------|-------------------------|---------------|--|
| <b>Office Action Summary</b> | Application No.         | Applicant(s)  |  |
|                              | 10/784,626              | CHERNY ET AL. |  |
|                              | Examiner                | Art Unit      |  |
|                              | Christopher S. McCarthy | 2113          |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2005.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-13 and 15-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-13,15-17 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input checked="" type="checkbox"/> Other: <u>response to arguments</u>  |

### DETAILED ACTION

1. Claims 1, 2, 4-5, 7-10, 15-17, and 19-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Parker et al. U.S. Patent 6,112,312, as cited in prior office action, which was mailed on 11/28/2005.
2. Claims 6, 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker in view of *Microsoft Computer Dictionary* (Microsoft), as cited in prior office action, which was mailed on 11/28/2005.
3. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, as cited in prior office action, which was mailed on 11/28/2005.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2, 4-5, 7-10, 15-17, and 19-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Parker et al. U.S. Patent 6,112,312.

As per claim 1, Parker teaches a system that tests industrial control modules, comprising: an instrument that provides input stimulus and measurement readings (column 2, lines 14-19; column 4, line 63 – column 5, line 7; column 6, lines 44-49); a test component that provides program flow to the input stimulus and measurement readings of the at least one instrument (column 4, lines 54-62); and an instrument component that is communicatively coupled to the instrument (column 6, lines 44-49; column 5, lines 11-12) and has a virtual mode that runs the test component with the instrument in simulation mode (column 10, line 66 – column 11, line 2; column 3, lines 53-58); the instrument component further comprising a normal mode for running the instrument in live mode (column 3, lines 29-33, 51-58).

As per claim 2, Parker teaches the system of claim 1, further comprising at least two instruments, at least two test components, and/or at least two instrument components (column 4, lines 46-62; column 3, lines 53-58).

As per claim 4, Parker teaches the system of claim 1, further comprising a test kernel component that provides a generic interface to the instrument component and the test component (column 4, lines 47-51).

As per claim 5, Parker teaches the system of claim 4, further comprising a test system interface that allows test selectability and test initiation to a remote source (column 6, lines 58-64; column 10, lines 56-59).

As per claim 7, Parker teaches the system of claim 1, at least one of the instrument component and the test component is a dynamically linked library (column 7, lines 48-52; column 4, lines 63-66).

As per claim 8, Parker teaches the system of claim 7, the instrument component comprises at least one basic functional module associated with a particular type of the instrument (column 3, lines 14-19).

As per claim 9, Parker teaches the method of claim 8, the at least one basic functional module comprises at least one of a reset component, a self-test component, a setup component, and a read component (column 3, lines 14-21; column 7, lines 46-47).

As per claim 10, Parker teaches a method for testing industrial control modules, comprising: developing at least one test template file with a plurality of test level type functions (column 4, lines 47-51); compiling and linking the at least one test template file to at least one instrument component (column 4, lines 56-66); and executing the at least one test template file in simulation mode to determine if the at least one test template file operates properly (column 10, line 66 – column 11, line 11) and executing the at least one test template file in normal mode to test the industrial control module (column 3, lines 30-33).

As per claim 15, Parker teaches the method of claim 10, at least one of the at least one test template file and the instrument component is a dynamically linked library (column 7, lines 48-52; column 4, lines 63-66).

As per claim 16, Parker teaches the method of claim 15, further comprising decomposing the instrument component into at least one basic functional module associated with a particular type of at least one instrument that is to be tested (column 3, lines 14-19).

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As per claim 17, Parker teaches the method of claim 16, the at least one basic functional module is at least one of a reset, self-test, setup, and read module (column 3, lines 14-21; column 7, lines 46-47).

As per claim 19, Parker teaches the method of claim 10, further comprising developing the at least one test template file at a remote location (column 4, lines 54-62; column 6, lines 58-64).

As per claim 20, Parker teaches a system that facilitates test development for testing of industrial control modules, comprising: means for developing at least one test template file (column 4, lines 47-51); means for executing the at least one test template file in simulation mode to determine if the at least one test template file operates properly (column 10, line 66 – column 11, line 11); and means for executing the at least one test template file in normal mode to test the industrial control module (column 3, lines 30-33).

As per claim 21, Parker teaches the system of claim 20, further comprising means for developing the at least one test template file at a remote location (column 4, lines 54-62; column 6, lines 58-64).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 6, 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker in view of *Microsoft Computer Dictionary* (Microsoft).

As per claim 6, Parker teaches the system of claim 5 and a test system interface (column 3, lines 59-65). Parker does not explicitly teach wherein the interface is a graphical user interface (GUI). Parker teaches the use of a command-line interface. Microsoft teaches a graphical user interface (page 207) and a command line interface (page 96). It would have been obvious to one of ordinary skill in the art to use the GUI of Microsoft in the test system interface of Parker. One of ordinary skill in the art would have been motivated to use the GUI of Microsoft in the test system interface of Parker because Microsoft teaches wherein a GUI serves the user as an comparative form to command line interface for inputting data into a user system. User entered data in any modification thereof is an explicit desire of Parker.

As per claim 11, Parker teaches the method of claim 10, developing at least one test template file comprises providing a plurality of test level type functions, function calls, and standard instrument library calls (column 4, lines 54-67). Parker does not wherein these items are commented out; however, Parker does teach the modifying, adding and deleting of a template file as to perform a desired test (column 3, lines 38-41). Microsoft does teach the technique of commenting out code (page 97). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the commenting out technique of Microsoft in the code modification of Parker. One of ordinary skill in the art would have been motivated to use the commenting out technique of Microsoft in the code modification of Parker because Microsoft teaches the commenting out of code as a means to temporarily change the code. This is an

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explicit desire of Parker in that the template file is not to be permanently changed, but only modified for a specific test (column 2, line 58 – column 3, line 2, 38-41).

As per claim 12, Parker teaches the method of claim 11, further comprising the test level type functions, function calls, and standard instrument library calls for a specific unit to be tested (column 4, lines 54-67). Parker does not teach the uncommenting of such code; however, however, Parker does teach the modifying, adding and deleting of a template file as to perform a desired test (column 3, lines 38-41). Microsoft does teach the technique of commenting out code (page 97, wherein uncommenting is implicitly taught as the opposite definition). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the uncommenting technique of Microsoft in the code modification of Parker. One of ordinary skill in the art would have been motivated to use the uncommenting technique of Microsoft in the code modification of Parker because Microsoft teaches the commenting/uncommenting of code as a means to temporarily change the code. This is an explicit desire of Parker in that the template file is not to be permanently changed, but only modified for a specific test (column 2, line 58 – column 3, line 2, 38-41).

As per claim 13, Parker teaches the method of claim 12, further comprising inserting code into the at least one of the test level type functions to provide functionality to the at least one of the test level type functions (column 4, lines 54-67).

***Allowable Subject Matter***



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8. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

9. Applicant's arguments filed 12/14/05 have been fully considered but they are not persuasive.

With respect to claims 1 and 20, the applicant has argued that Parker does not teach a virtual mode that runs the test component with the instrument in simulation mode and the instrument component further comprising a normal mode for running the instrument in live mode. The examiner respectfully disagrees. In column 3, lines 53-56, Parker teaches a connected simulation system which contains the microprocessor model and this system executes test code for the model (column 10, line 66 – column 11, line 2). The applicant does not seem to argue this prior limitation and the crux of the argument seems to be the distinctiveness of a separate mode from the simulation/virtual mode in the form of a normal mode to run the component in live mode. Parker teaches at least two separate and distinct executions of testing the microprocessor model (column 3, lines 53-58). The first is the simulation mode, as mentioned above, and the other is the real mode. This real mode is when the actual physical hardware of the microprocessor is tested with the test file. This is interpreted as equivalent to the claimed normal mode, in that, the actual hardware microprocessor is present and run in an actual computer system and results are achieved therefrom. Therefore, in the virtual mode, the model

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of the microprocessor is tested by means of a simulation system; and, in the real mode, the microprocessor (instrument) is actually tested using the test file in real time (live) mode. These modes are better shown in Table 1 in column 6 of Parker.

With respect to claim 10, the applicant has argued that Parker does not teach executing the at least one test template file in simulation mode to determine if the at least one test template file operates properly, and executing the at least one test template file in normal mode to test the industrial control module. The examiner respectfully disagrees. As mentioned above, the simulation system tests a model of the microprocessor. This model can be created and tested using only software (column 5, lines 7-26), and, as such, since no hardware is being actually used, it is interpreted as the actual test file is evaluated as functional or not and the results thereof are compared to desired results, as taught in Parker. Furthermore, in column 10, lines 36-40, Parker teaches testing the x86 microprocessor model in virtual mode (can be only software, and, therefore, only the template file is actually executed and evaluated), and then exiting the virtual mode to execute the test file in real mode. As mentioned above, the real mode is actually testing and evaluating the physical implementation of the microprocessor. In summation, the test file is executed in only software and this is deemed as just testing the test program execution, and then the test file is executed by the physical hardware, and this is deemed as testing the module in normal mode.

With respect to claims 6, and 11-13, the applicant has argued the same for the traversal of claims 1 and 20. These arguments have been addressed above.

In light of the aforementioned arguments, all applicable claims stand rejected.

*Conclusion*

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher S. McCarthy whose telephone number is (571)272-3651. The examiner can normally be reached on M-F, 9 - 5:30.

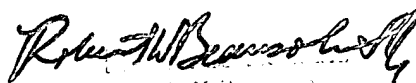
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571)272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

csm

January 20, 2006



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